another laboratory especially designed for such a purpose.

In recent discussions in SCIENCE it is apparent that some of the correspondents were ignorant of the conditions which have prevailed since 1898 at the Tortugas.

The station is now a naval coaling base and a large and comfortable tug makes regular trips twice a week to and fro between the Tortugas and Key West, leaving at 8 A.M. and arriving at about 2 P.M. Even during the writer's earliest visits to the region it was never necessary to charter a vessel in order to proceed from Key West to the Tortugas, as has been implied by one of the correspondents.

The climate of the Tortugas is cooler than that of the Bahamas, owing to their smaller land mass and the refreshing influence of the ocean breeze. In both Bahamas and Tortugas the breezes throughout the months of May to August are usually so gentle that one may make studies of the windward sides of the reefs on almost any day, using very small rowboats. The yellow fever quarantine station was abolished at the Tortugas in 1899, and there are practically no mosquitoes on Loggerhead or Bird Keys.

Although the community at the Tortugas is small the social conditions are pleasant, for people of culture and education are sure to be found among the naval officers and their families, and indeed, the writer recalls with keen pleasure many most enjoyable hours spent in company with one of the keepers of the lighthouse. The community is sufficiently small not to distract, but yet large enough to render pleasant and profitable the few leisure hours which may be enjoyed by one engaged in marine research. The Tortugas is in telegraphic connection with Key West, and a naval surgeon is stationed at Fort Jefferson.

ALFRED GOLDSBOROUGH MAYER.

SHORTER ARTICLES.

THE BRAIN-WEIGHT OF THE JAPANESE.

INVESTIGATIONS concerning the weight of the brain in the non-European races have hitherto been exceedingly limited. All that was known of the brain-weight of the Japanese was confined to a few statistics reported by Doenitz* (1874), Taguchi† (1881) and Suzuki‡ (1892), comprising in all 130 brains. These were nearly all of persons who were decapitated in the time of the 'Meiji.' The average brain-weight of 100 males was found by Taguchi to be 1,356 gms.; while Doenitz gives 1,337 gms. for 10 male subjects. Professor K. Taguchi,§ of Tokyo University, recognizing the need of fuller statistics, began ten years ago to record systematically brain-weights together with data concerning stature, age and body-weight. His researches are based upon 597 subjects; 421 males and 176 females, mostly from the hospitals. The average brain-weight of 374

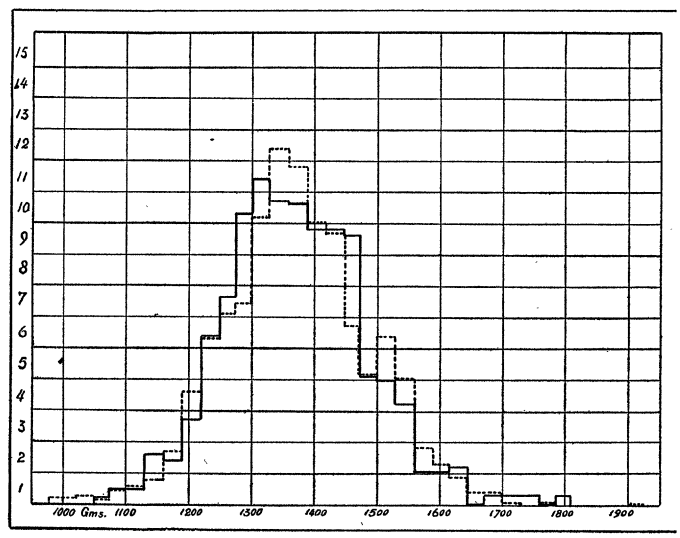

FIG. 1. Chart showing distribution of 374 male Japanese brain-weights (continuous line) as compared with 1,012 German brain-weights (broken line) of the Bischoff-Marchand series. For convenience in comparison, both series are tabulated on a basis of 100 cases each.

* Doenitz, 'Mitth. d. deutsch. Gesellsch. f. Natur. u. Völkerk, de Ostasiens,' Yokohama, 1874.

† 'Kaiboranyo,' Vol., 1881, p. 18.

‡ *Tokyo Medical Gazette*, VI., 1892, p. 518.

§ K. Taguchi, 'On the Weight of the Encephalon of the Japanese,' *Sei-I-Kwai Medical Journal*, Tokyo, Vol. XXII., Nos. 1, 2 and 3, 1903. Also in *Neurologia*, Vol. I., No. 5, 1903.

adult males (ages 21–95) is 1,367 gms. (max. = 1,790; min. = 1,063); of 150 adult females it is 1,214 gms. (max. = 1,432; min. = 961). The sexual difference of these averages is 153 gms., about the same as in Europeans.

TABLE I.

Males.

Age.	Japanese. (Taguchi) (397).	Germans. (Bischoff) (545).	Germans. (Marchand) (493).	Russians. (Giltschenko) 720.	Swedes. (Retzius) 350.	Czechs. (Matiegka) 306.
14–20	1,345	1,340	1,404	1,413	.....	.....
20–30	1,350	1,396	1,416	1,394	1,434	1,475
30–40	1,374	1,365	1,391	1,358	1,412	1,467
40–50	1,391	1,366	1,403	1,345	1,388	1,423
50–60	1,389	1,375	1,370	1,347	1,392	1,445
60–70	1,381	1,323	1,370	1,267	1,349	1,419
70–80	1,333	1,279	1,324	1,284	1,340	1,367
80 and over.	1,342			1,289		1,442

Females.

	(156)	(341)	(266)	( )	(250)	(205)
14–20	1,226	1,242	.....	.....	.....	.....
20–30	1,264	1,234	1,293	.....	1,279	1,309
30–40	1,210	1,233	1,267	.....	1,268	1,332
40–50	1,179	1,240	1,260	.....	1,246	1,298
50–60	1,252	1,200	1,260	.....	1,237	1,266
60–70	1,219	1,178	1,215	.....	1,244	1,245
70–80	1,202	1,121	1,159	.....	1,195	1,242
80 and over.	1,102			.....		1,189

In order to better understand the distribution of these brain-weights as compared with those of Europeans, the writer has employed Taguchi's figures in the preparation of the accompanying chart (Fig. 1). The distribution of the (374) male Japanese brain-weights (continuous line) is seen to correspond fairly well with that of (1,012) male German brain-weights (broken line) of the Bischoff-Marchand* series. The comparison can be fairly made, since the weighings were made according to similar methods in both series.

Taguchi has no records of the weight of the brain in the new-born, but has 156 brain-weights of children ranging from two months to fourteen years of age. Comparing these with similar records of European children (Pfister, Mies, Marchand), it is evident that the growth of the Japanese brain is slower. The brain of the Japanese boy between nine and fourteen years of age weighs about 1,235 gms., while that of the European of the same age weighs 1,300–1,350 gms. Among adults there is a gradual increase up to the fifth decade. Table I. shows the weight of the brain in the various decades in comparison with those of Germans (Bischoff and Marchand), Swedes (Retzius), Czechs (Matiegka) and Russians (Giltschenko). The maximum is attained in the fifth decade among the Japanese males; in the female series two maxima occur, one in the third, the other in the sixth decade. The necessity of obtaining still more extensive statistics is, therefore, apparent.

The relation between brain-weight and stature is as positive as is observed in the European series. The Japanese are a people of small stature, however, and this fact lends interest to the question of relative brain-weight. It is a little difficult to institute very satisfactory comparisons with the European records since Taguchi's methods of tabulation are different from those generally employed. The following table may help the reader to interpret the relations of brain-weight and stature among Europeans (Germans, Russians and Czechs) and in the Japanese series.

TABLE II.

Males.

Japanese. Stature.	Japanese. (226.)	Stature.	Marchand (439).	Bischoff (390).	Giltschenko (720).	Matiegka (269).
138–148	1,324	145–150	.....	1,307	1,342	.....
148–158	1,355*	151–160	1,360	1,339		1,403
158–168	1,380	160–164	1,388	1,341	1,359	1,417
		165–170		1,355	1,375	1,430
		171–180	1,404	1,389	1,404	1,457
		180 and over.		1,375		1,496

* See the writer's review of Marchand's 'Ueber das Hirngewicht des Menschen,' SCIENCE, N. S., Vol. XVII., 1903, p. 345.

* In the original this figure is given as 1,535 gms. This is manifestly a typographical error; it should be 1,335 or 1.355 instead. The latter figure is more likely to be correct.

Another mode of interpreting these results is to calculate the number of grams of brain-weight per centimeter of stature (Table III.). This shows that the relative brain-weight is about the same in the races mentioned and only in the very small Japanese individuals is the ratio high. The small stature of these people is therefore more characteristic of the race than is the absolute brain-weight.

TABLE III.

Males.

Grams per Centimeter of Stature.

	Germans.		Russians.	Czechs.	Japanese.
Less than 150 cm.	Bischoff.	Marchand.	Giltsch'ko.	Matiegka.	Taguchi.
					9.3
150	8.7	9.2			
155			8.6	9.0	8.7
160	8.3	8.4			
165	8.1	8.2	8.4	8.6	8.5
170	7.9	7.9			
175	7.6	7.8	7.9	8.3	
180		7.8			
185				8.1	
190	7.1	7.8			

As regards the relation of brain-weight and body-weight there are bound to be great diversities of opinion as to the average ratio. Bischoff's ratio is 1:36.6 in males, 1:35.2 in females. Vierordt's more extensive tables give 1:46.3 in males, 1:44.8 in females. Taguchi finds 1:38.3 and 1:42.9 respectively in his Japanese series. The weight of the body is, however, a very unsatisfactory standard for comparison since the mode of death and other factors exert a great influence upon it. Such objections can not be raised against employing the stature as a basis for estimating relative brain-weight.

To recapitulate, the brain of the Japanese grows more slowly during infancy and early youth than it does in the European. In the adult the brain-weight compares favorably with that of Europeans of similar stature and it may be shown to be superior in this respect to other races of the same general stature. These facts are of not a little significance in relation to the learning, industry and aptitudes of this progressive race.

E. A. SPITZKA.

GONIONEMUS VERSUS 'GONIONEMA.'

WITH the growing multiplicity of names in zoological nomenclature and their great similarity, although referring to widely different forms, it is certainly a questionable practice to change the name of any animal unless there is urgent reason for doing so.

It is well known that names of animals are not all good etymology or derivation, but this should not be sufficient ground for changes. A name once given an animal by proper authority is its name irrespective of etymology or its significance, and would better not be changed in most cases for any less reason than being preoccupied.

As *Gonionemus* is a jellyfish that will be frequently referred to, on account of its being used both in many experiments and in universities and colleges for class study, it is desirable to have the form of its name established.

Haeckel ('System der Medusen') first changed Agassiz's naming of the genus to '*Gonynema,*' because he supposed the name was intended to mean 'kneed thread.' And in the light of Agassiz's description ('North Am. Acalephæ,' 1865), in which he said '* * * the moment a blade of kelp touches their disc, they stop, bend their tentacles *like knees,* and remain attached to the seaweed * * *,' it is evident that he meant to use for part of the name the word that refers to knees. If the name were to be changed, therefore, it should be *Gonynema,* which would also be correct in construction.

The form of the name '*Gonionema*' was first published by Yerkes (*Am. Jour. of Physiol.,* Vol. VII., No. 2) and since then used by others, but here again only the ending is corrected and it still remains to change the end of the first part, making it *Gonianema.** Dr. Perkins (*The Proc. of the Acad. of Nat.*

* Since the above was put into type a letter from Professor Agassiz states that, in 1859, in making the name Gonionemus he meant to suggest 'something with knees browsing about in the huge kelp,' which reminded him of a grove. According to this, then, the part of the name in question is from '*nemus*' and the original ending is the proper one.